



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,481	12/30/2004	Timo Viero	60091.00368	2846
32294 7590 03/31/2009 SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212				
EXAMINER				
MILLER, BRANDON J				
ART UNIT		PAPER NUMBER		
2617				
MAIL DATE		DELIVERY MODE		
03/31/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/519,481

**Applicant(s)**

VIERO ET AL.

**Examiner**

BRANDON J. MILLER

**Art Unit**

2617

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 4-18, 20-35 and 38-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-2, 4-18, 20-34, and 38-64 is/are allowed.
- 6) ☒ Claim(s) 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment/Remarks***

***Disposition of Claims***

- I. Claims 1-2, 4-18, 20-35, and 38-64 are pending in the application.

***Allowable Subject Matter***

II. Claims 1-2, 4, 18, and 20 contain subject matter allowable over the prior art. The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 recites a method with steps as defined in the specification (pages 3-16) including first determining for different nodes of a circuit arrangement one or more predetermined operations to execute; second determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes; and executing the predetermined operations in the circuit arrangement nodes according to the signal classes, wherein the circuit arrangement is at least substantially in accordance with a combined tree structure comprising at least one first tree branch configured to perform transmitter tasks and at least one second tree branch configured to receive receiver tasks, and wherein the circuit arrangement comprises one or more nodes of different branches is-connected in a predetermined manner.

Applicant's independent claim 1 comprises a particular combination of elements, which is neither taught nor suggested by the prior art.

Claim 2 recites a method with steps as defined in the specification (pages 3-16) including first determining for different circuit arrangement nodes at least one operation to execute and selecting a modification level from the circuit arrangement; merging together nodes in the selected modification level and deleting irrelevant nodes and links between the nodes and/or adding new links; second determining one or more division criteria for dividing the signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes; and executing the determined operations in the circuit arrangement nodes according to the signal classes.

Applicant's independent claim 2 comprises a particular combination of elements, which is neither taught nor suggested by the prior art.

Claim 4 recites a method with steps as defined in the specification (pages 3-16) including first determining for different nodes of a circuit arrangement one or more predetermined operations to execute; second determining one or more division criteria for dividing signals or signal components into signal classes; dividing at least one of the signals or signal components according to the one or more division criteria into the signal classes; and executing the predetermined operations in the circuit arrangement nodes according to the signal classes, wherein the circuit arrangement is at least substantially in accordance with a centralized loop such that at least two subtrees are connected to the loop, wherein at least one subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

Applicant's independent claim 4 comprises a particular combination of elements, which is neither taught nor suggested by the prior art.

Claims 38-50 are allowable based on their dependence of independent claim 4.

Claim 18 recites an apparatus with elements as defined in the specification (pages 3-16) including nodes arranged to perform at least one operation; a divider configured to divide one or more signals or signal components according to one or more predetermined division criteria into signal classes; and performing circuitry configured to perform predetermined operations according to the signal classes, wherein the apparatus is configured substantially in a combined tree structure comprising, at least one first tree branch configured to perform transmitter tasks and at least one second tree branch configured to receive receiver tasks, and wherein the combined tree structure comprises one or more nodes of different branches connected in a predetermined manner.

Applicant's independent claim 18 comprises a particular combination of elements, which is neither taught nor suggested by the prior art.

Claim 20 recites an apparatus with elements as defined in the specification (pages 3-16) including nodes arranged to perform at least one operation; a divider configured to divide one or more signals or signal components according to one or more predetermined division criteria into signal classes; and performing circuitry configured to perform predetermined operations according to the signal classes, wherein the apparatus is configured substantially in a centralized loop such that at least two subtrees are connected to the loop, wherein at least one first subtree performs tasks of radio-frequency parts and at least one second subtree performs tasks of baseband parts.

Applicant's independent claim 20 comprises a particular combination of elements, which is neither taught nor suggested by the prior art.

Claims 51-64 are allowable based on their dependence of independent claim 20.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

III. Claim 35 recites a “computer program embodied on a computer readable medium, the computer readable medium storing code comprising computer executable instructions comprising...” in lines 1-3. The claim is rejected under 35 U.S.C. 101 because the claimed “computer program embodied on a computer readable medium, the computer readable medium storing code comprising computer executable instructions” can be interpreted as program per se in accordance with the claimed invention because it merely comprises coded instructions.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

IV. Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 35 contains the limitation “a computer program embodied on a computer readable medium, the computer readable medium storing code comprising computer executable instructions”. The above limitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation first appears in claim 35 of an amendment dated 10/02/2007. However, because the amendment adding this limitation was over two years after the 12/30/2004 filing date of the application and the limitation is not recited or suggested anywhere else in the application as filed, the amendment constitutes new matter.

Applicant has responded to the 35 USC § 112, first paragraph rejection of claim 35, made in the office action with mail date 09/23/2008, by stating that the control blocks referred to in the specification at paragraph [0031] are “computers that inherently include a data storage device.” (see Response to Office Action, page 17, dated December 23, 2008).

However, what is alleged as “inherent” is not the measure for subject matter not disclosed in the original application; rather it is about subject matter in amended cases not disclosed in the original application as filed. If un-supported subject matter were introduced in an amendment, it is clearly indicated that such a claim should be rejected under 35 USC § 112, first paragraph for new matter. See 37 CFR 1.53 (b)

***Claim Objections***

V. Claim 18 is objected to because of the following informalities: Claim 18 recites “at least one second tree branch configured to performs receiver tasks” in lines 9-10. This appears to be a typographical error. Appropriate correction is required.

***Response to Arguments***

VI. Applicant's arguments filed 12/23/2008 regarding the 35 U.S.C. 112, first paragraph of claim 35 of claim 35 have been fully considered but they are not persuasive. See above 35 U.S.C. 112, first paragraph of claim 35.

***Conclusion***

VII. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON J. MILLER whose telephone number is (571)272-7869. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brandon J Miller/  
Examiner, Art Unit 2617

March 25, 2009